Space Weather Forecast

Issued on Tuesday, 31 May 2022 at 01:16 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Slight chance of moderate-class flares.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity has been Low, with one Common-class flare observed from a faded sunspot region. Two active regions in the northwest quadrant have changed little and are now very close to the limb. Two regions in the southeast appear simple single polarity regions. No Earth directed CMEs (coronal mass ejections) have been observed in coronagraph imagery in the last 24 hours.

Solar Wind / Geomagnetic Activity: The solar wind has been elevated due to a solar fast wind at around 550 km/s. Both the total interplanetary magnetic field strength, and the important north-south component remained weak throughout. Geomagnetic activity was Quiet to Unsettled over the previous 24 hours period.

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to be Low or Very Low, with a slight chance (10%) of Moderate-class flares. This probably most likely from an active region that recently crossed over the western limb, or new sunspot regions that are expected to rotate over the eastern limb in the coming days.

Solar Wind / Geomagnetic Activity: A Coronal Mass Ejection (CME) which left the Sun on 28 May could give a glancing blow to the Earth on day 2 (1 June), but confidence is low as is the probability. Earth is currently connected to a fast solar wind, with this is likely to decline by day 2 (1 June). No further enhanced solar winds are predicted to connect with Earth until perhaps day 4 (3 June) at the earliest. Geomagnetic activity is likely to be Quiet with isolated Unsettled spells. There is a risk of Active intervals or a minor geomagnetic storm interval on day 2 (1 June) due to the anticipated CME arrival.

Energetic Particles / Solar Radiation: Solar radiation storms are extremely unlikely.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	10	5	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	10	10	5	5
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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